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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/775,838 | 02/01/2001 | Toshio Hata | 299002051900 | 1157 |

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EXAMINER

LE, THAO X

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2814

DATE MAILED: 05/08/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/775,838

Applicant(s)

HATA ET AL.

Examiner

Thao X Le

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claim 1-11 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent 6,242,761 by Fujimoto et al.

Regarding to claim 1, Fujimoto teaches in fig. 1. A gallium nitride compound semiconductor light emission device comprising: a substrate 101, a n-type electrode region 104/130 comprising an n-type transmissive electrode 130, a gallium nitride compound semiconductor multiplayer structure including active layer 107, a p-type electrode region 114/113 comprising a p-type transmissive electrode 131, wherein the n-type transmissive electrode is of a type which is substantially transparent, because of the inherent material properties and structure disclosed. In re Best, 195 USPQ 430, 433 (CCPA 1977).

Regarding to claim 2, Fujimoto teaches a gallium nitride compound semiconductor light emission device, wherein the p-type transmissive electrode 131 and the n-type transmissive electrode 130 transmit light, which is generated in the active layer 107 and reflected from the substrate so that light exits the light emission device, fig. 1.

Regarding to claim 3-4, Fujimoto teaches a gallium nitride compound semiconductor light emission device, wherein the n-type transmissive electrode is located outside and is formed around a circumference of the p-type transmissive electrode, fig. 1. The fig. 1 is the side view of the device and the top view (not shown) would have shown the surrounding structure as claimed, because of the inherency of the structure.

Regarding to claim 5, Fujimoto teaches a gallium nitride compound semiconductor light emission device, wherein the gallium nitride compound semiconductor multiplayer structure includes a buffer layer 102, column 4 line 38, a n-type gallium nitride compound semiconductor layer 104, column 4 line 39, wherein the n-type transmissive electrode 130 is formed on a side face of the substrate, a side face of the buffer layer, and a side face of the n-type gallium nitride compound layer in the region neighboring the buffer layer, fig. 1.

Regarding to claim 6-8, Fujimoto teaches a gallium nitride compound semiconductor light emission device wherein the n-type and p-type electrode region further comprises an n-type and p-type pad electrode, column 7 line 37-41, are provided substantially along one side of a light emitting face of the gallium nitride compound, and the p-type pad is formed in the vicinity of the center of the emitting face of the gallium nitride compound, fig. 1

Regarding to claim 9, Fujimoto teaches a gallium nitride compound semiconductor light emission device wherein the n-type transmissive electrode comprises at least one of the thin metal film, column 7 lines 3-4.

Regarding to claim 10, Fujimoto teaches a gallium nitride compound semiconductor light emission device wherein the n-type pad electrode is of a type, which realizes a Schottky contact, because of the inherent property.

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Regarding to claim 11, Fujimoto teaches a gallium nitride compound semiconductor light emission device wherein the n-type pad electrode comprises an alloy of Au, column 7 line 38-39.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(a) US Patent 6,172,382 to Nagahama et al.

(b) Us Patent 6,097,040 to Morimoto et al.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X Le whose telephone number is 703-306-0208. The examiner can normally be reached on 8:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Thao X. Le
April 23, 2002



PHAT X. CAO
PRIMARY EXAMINER